

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims**

Claims 1-13 (cancelled)

Claim 14 (currently amended): A method for controlling a device for an ablation of a part of a human eye using laser irradiation, the control being exercised using an electronic data processing system, the method comprising:

determining optic and geometrical data of the eye; and  
performing a graphic simulation of the ablation in the form of a graphic visualization; and  
controlling the device for the ablation according to the graphic visualization using the optic and geometrical data of the eye.

Claim 15 (previously presented): The method as recited in claim 14, further comprising inputting a plurality of treatment parameters manually using a central input/output device.

Claim 16 (previously presented): The method as recited in claim 15, further comprising determining a plurality of operating parameters, wherein the determining includes at least one of:

- a) establishing a topography data of the eye;
- b) establishing a refraction data of the eye;
- c) establishing a higher-order aberration data of the eye using wave-front measurement;
- d) establishing a pachymetry data of the eye;
- e) establishing a pupillometry data;
- f) point-accurate overlaying of all the measurement data from a) through e) in a fixed coordinates system of the eye;
- g) calculating a height data of deviations relative to a reference surface;
- h) calculating a height data difference relative to the reference surface;

- g) calculating an adapted height data difference relative to the reference surface;
- h) calculating ablation coordinates for the device, wherein the device includes a laser.

**Claim 17 (previously presented):** The method as recited in claim 16, wherein the establishing of the refraction data includes establishing at least one of a subjective and an objective refraction data.

**Claim 18 (previously presented):** The method as recited in claim 16, further comprising calculating a height data of deviations of a cornea surface of the eye relative to a reference surface using at least one of the topography data and the refraction data.

**Claim 19 (previously presented):** The method as recited in claim 18, further comprising determining a tissue to be abraded from the cornea of the eye using the height data of the deviations of the cornea surface.

**Claim 20 (previously presented):** The method as recited in claim 16, further comprising determining a result using the topography data, the result including at least one of a K value, a curvature map, a topography map, and a power map, and wherein the controlling the device for the ablation is performed using the result.

**Claim 21 (previously presented):** The method as recited in claim 16, wherein the establishing of the refraction data of the eye includes establishing at least one of spherical refraction data and cylindrical refraction data.

**Claim 22 (previously presented):** The method as recited in claim 16, wherein the reference surface is an ellipsoid.

**Claim 23 (previously presented):** The method as recited in claim 16, wherein a refraction reference surface of the refraction data is a spheroid.

Claim 24 (previously presented): The method as recited in claim 14, wherein the device for ablation includes at least one of a laser and a wave-front measurement device.

Claim 25 (previously presented): A device for treating a human eye using laser irradiation, the device comprising:

- a aberrometry apparatus configured to measure an aberrometry of the eye;
- a topography apparatus configured to measure a topography of the eye;
- a pachymetry apparatus configured to measure a pachymetry of the eye;
- an overlaying apparatus configured to provide a point-accurate, centred overlaying of the aberrometry, topography, and pachymetry;
- a laser unit; and
- an electronic data-processing apparatus configured to link the aberrometry, topography, pachymetry and further patient data to ablation values using a processing model.

Claim 26 (previously presented): The device as recited in claim 24, further comprising a pupillometry apparatus for measuring a pupillometry of the eye.

Claim 27 (previously presented): The device as recited in claim 25, wherein the aberrometry apparatus, the topography apparatus, the pachymetry apparatus, and the pupillometry apparatus are disposed in a measuring equipment arrangement configured to allow measurement of aberrometry, topography, pupillometry and pachymetry using a fixing.

Claim 28 (previously presented): The device as recited in claim 24, wherein the device is configured to display an ablation of the eye graphically as an ablation map.